

the recess is reduced resulting in a greater depth near the center of a conventional flat bottom recess due to the required pressure rating for the charge carrier.

The language cited by the examiner in column 3 of the Walker patent only refers to minimizing the hole size through the contoured bottom surfaces and preventing peeling of the recesses in the longitudinal direction. The language cited by the examiner in column 5 of the Walker patent does refer to the recess with a contoured bottom surface enhancing performance as the thickness of the steel at the center of the recess. Applicant concedes that the Walker patent indicates that reducing the thickness of steel at the center of the recess results in enhanced performance as greater remaining energy is available to penetrate the formation.

The Walker patent has contoured hole penetration recesses with greater depth at the center of the recess, as compared to a conventional recess, to reduce the hole size made in the charge carrier upon detonation of the shaped charges thus enhancing debris containment in the wellbore. Another result of increasing the depth of the recess and reducing the thickness of the steel at the center of the recess is to allow greater penetration of the shaped charge into the formation as less energy is used to penetrate the carrier which is just an obvious result. Walker does not contend to be the inventor that reducing the thickness of steel will result in greater remaining energy to penetrate the formation. That is just an obvious result.

The present invention also does not contend to have invented the concept that reducing the thickness of the steel carrier at the center of the recess will result in greater remaining energy to penetrate the formation. The present invention does contend to have invented arched geometric inwardly shaped hole penetration areas to provide additional strength to the tubular body member. The purpose of the arched geometric recess is allow the maximum amount of steel to be removed at

the center of the recess to provide the maximum amount of remaining energy for penetration of the formation. The mere fact that more steel is also removed in the Walker patent, as compared to a conventional recess, does not anticipate the arched geometric recesses of the present invention to remove the maximum amount at the center for maximum formation penetration.

The arched geometric recesses of the present invention have nothing to do with the purpose of the Walker patent. The present invention would have more debris than the Walker design or a conventional recess. The present invention will crack and peel with the elliptical flat area causing it to peel. The present invention would be unacceptable in a low debris environment and would also be unacceptable in a high shot density as depicted in Figure 2 of the Walker patent. The Walker patent and the present invention have completely different purposes and the mere fact that both have less steel at the center of the recess resulting in greater penetration does not mean that Walker anticipates the present invention. Walker is to use contoured bottom surfaces to reduce hole size and the resulting debris. The present invention is the invention of arched geometric recesses to maximize the depth at the center of the recesses while maintaining integrity of the tubular member to maximize the depth of penetration into the formation.

### **35 USC § 103**

The Final Office Action then indicates that the present invention does add the element of the hole penetration areas being elliptical in the remaining claims of 2, 4, 6, 7, 9, 13 and 14 but that these claims are unpatentable as they are obvious to a person of ordinary skill in the art. The Final Office Action indicates that this is attested by the inventor's own descriptions on page 12 where three

different types on elliptical scallops shown in Figures 5, 6, 8 and 10 were tested to illustrate the relationship between tubular size and depth of the cut..

It is a circular argument to say that it is obvious to a person of ordinary skill in the art as the applicant is a person of ordinary skill in the art and the applicant tested the elliptical preferred embodiments. This circular argument could be said about any patent application.

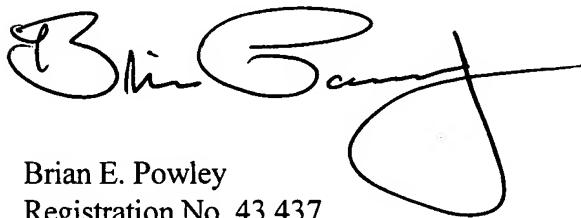
Applicant is a person of skill in the art and has invented a highly desired new product that is sold to oilfield service companies that operate worldwide. One of such service companies is Halliburton, who is the assignee of the Walker patent, and has used the present invention extensively in many locations with no complaints of patent infringement.

The elliptical shape is necessary to compensate for tolerances in the tubular body length and carrier length, which can combine up to a quarter inch, to maintain the charge within the elliptical flat for the least possible amount of resistance.

No additional fee is due.

On the basis of the above remarks, reconsideration of this application is requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian E. Powley".

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